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NEWS	19	DEC 22	ABI-INFORM now available on STN
NEWS	20	JAN 27	Source of Registration (SR) information in REGISTRY updated and searchable
NEWS	21	JAN 27	A new search aid, the Company Name Thesaurus, available in CA/CAPLUS
NEWS	22	FEB 05	German (DE) application and patent publication number format changes
NEWS EXPRESS			DECEMBER 28 CURRENT WINDOWS VERSION IS V7.00, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
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=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

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FILE COVERS 1907 - 26 Feb 2004 VOL 140 ISS 9

FILE LAST UPDATED: 25 Feb 2004 (20040225/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s prepreg?

L1 12676 PREPREG?

=> s circuit(l)board

189239 CIRCUIT

108706 CIRCUITS

230282 CIRCUIT

(CIRCUIT OR CIRCUITS)

77423 BOARD

52231 BOARDS

94438 BOARD

(BOARD OR BOARDS)

L2 40996 CIRCUIT(L)BOARD

=> s inorganic(l)(binder or adhesive)

90995 INORGANIC

268 INORGANICS

91222 INORGANIC

(INORGANIC OR INORGANICS)

240823 INORG

995 INORGS

241432 INORG

(INORG OR INORGS)

283324 INORGANIC

(INORGANIC OR INORG)

157706 BINDER

75753 BINDERS

184285 BINDER

(BINDER OR BINDERS)

161243 ADHESIVE

107846 ADHESIVES

183924 ADHESIVE

(ADHESIVE OR ADHESIVES)

L3 13990 INORGANIC(L) (BINDER OR ADHESIVE)

=> s glass
629977 GLASS
119733 GLASSES

L4 656031 GLASS
(GLASS OR GLASSES)

=> s l1 and l2 and l3 and l4
L5 21 L1 AND L2 AND L3 AND L4

=> d scan

L5 21 ANSWERS CAPLUS COPYRIGHT 2004 ACS on STN

IC ICM B32B017-04
ICS B29B011-16; B29C070-06; B29C070-10; C08J005-24; H05K001-03;
B29K063-00; B29K105-08; B29K309-08; B29K503-04; C08L063-00

CC 76-14 (Electric Phenomena)
Section cross-reference(s): 38, 40

TI Multilayer **prepreg boards** with high dielectric
constant possessing inorganic particles for **circuit
board** substrates

ST **circuit board prepreg** inorg particle contg;
dielec const high multilayer **glass prepreg**; flattened
glass cloth prepreg titania contg

IT Polyoxyphenylenes
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
(Properties); TEM (Technical or engineered material use); PREP
(Preparation); USES (Uses)
**(binders; multilayer prepreg boards with
high dielec. constant possessing inorg. particles for
circuit board substrates)**

IT Polyimides, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
**(binders; multilayer prepreg boards with
high dielec. constant possessing inorg. particles for
circuit board substrates)**

IT Printed **circuit boards**
(copper-clad; multilayer **prepreg boards** with high
dielec. constant possessing inorg. particles for **circuit
board** substrates)

IT Reinforced plastics
RL: DEV (Device component use); PRP (Properties); USES (Uses)
**(glass fiber-reinforced, prepregs; multilayer
prepreg boards with high dielec. constant possessing
inorg. particles for circuit board substrates)**

IT Electric apparatus
Electric insulators
(multilayer **prepreg boards** with high dielec. constant
possessing inorg. particles for **circuit board
substrates)**

IT Epoxy resins, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
(phenolic, novolak, **binders; multilayer prepreg
boards with high dielec. constant possessing inorg.
particles for circuit board substrates)**

IT 12047-27-7, BT 02, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(BT 02; multilayer **prepreg boards** with high dielec.
constant possessing inorg. particles for **circuit board**

substrates)
 IT 112782-77-1P, Butadiene-styrene-triallyl isocyanurate copolymer
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (binders; multilayer **prepreg boards** with high dielec. constant possessing **inorg.** particles for **circuit board** substrates)
 IT 26140-67-0, Kerimid 601 351341-14-5, Dicyandiamide-Epo Tohto YDCN 701 copolymer 351341-15-6
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (binders; multilayer **prepreg boards** with high dielec. constant possessing **inorg.** particles for **circuit board** substrates)
 IT 13463-67-7, Titania, properties
 RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (fillers; multilayer **prepreg boards** with high dielec. constant possessing **inorg.** particles for **circuit board** substrates)
 IT 12049-50-2, Calcium titanate 12060-00-3, Lead titanate 12060-01-4, Lead zirconate 12060-59-2, Strontium titanate
 RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (multilayer **prepreg boards** with high dielec. constant possessing **inorg.** particles for **circuit board** substrates)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L5 21 ANSWERS CAPLUS COPYRIGHT 2004 ACS on STN
 IC ICM B32B005-28
 ICS B32B027-04; C08J005-08; C08J005-18; C08L063-00; C08L101-00; H05K001-03; H05K003-46
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 76
 TI Resin sheets containing epoxy resin particles, and multilayer printed **circuit boards** with low dielectric constant
 ST printed **circuit board** low dielec const; multilayer printed **circuit board** resin sheet; **glass** fiber acrylic resin sheet **prepreg**; epoxy resin particle acrylic resin sheet
 IT **Glass** fibers, uses
 RL: DEV (Device component use); MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (chopped; **glass** fiber-acrylic resin sheets containing epoxy resin particles for multilayer printed **circuit boards** with low dielec. constant)
 IT Phenolic resins, uses
 Phenolic resins, uses
 RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (epoxy; **glass** fiber-acrylic resin sheets containing epoxy resin particles for multilayer printed **circuit boards** with low dielec. constant)
 IT Acrylic rubber
 RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (**glass** fiber-acrylic resin sheets containing epoxy resin particles for multilayer printed **circuit boards** with low dielec. constant)
 IT Printed **circuit boards**
 (multilayer; **glass** fiber-acrylic resin sheets containing epoxy

resin particles for multilayer printed **circuit boards**
with low dielec. constant)

IT Epoxy resins, uses
Epoxy resins, uses
RL: DEV (Device component use); MOA (Modifier or additive use); PRP
(Properties); TEM (Technical or engineered material use); USES (Uses)
(phenolic; **glass** fiber-acrylic resin sheets containing epoxy
resin particles for multilayer printed **circuit boards**
with low dielec. constant)

IT 167648-78-4
RL: DEV (Device component use); MOA (Modifier or additive use); PRP
(Properties); TEM (Technical or engineered material use); USES (Uses)
(**glass** fiber-acrylic resin sheets containing epoxy resin
particles for multilayer printed **circuit boards**
with low dielec. constant)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> d his

(FILE 'HOME' ENTERED AT 08:32:38 ON 26 FEB 2004)

FILE 'CAPLUS' ENTERED AT 08:32:53 ON 26 FEB 2004

L1 12676 S PREPREG?
L2 40996 S CIRCUIT(L)BOARD
L3 13990 S INORGANIC(L) (BINDER OR ADHESIVE)
L4 656031 S GLASS
L5 21 S L1 AND L2 AND L3 AND L4

=> s dispers?

L6 559962 DISPERS?

=> s l5 and l6

L7 4 L5 AND L6

=> d 1-4 bib,abs

L7 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:312175 CAPLUS
DN 138:322395
TI Aqueous binders for nonwoven fabrics, nonwoven fabrics for laminated
boards, printed **circuit boards** and dielectric
boards therefrom

IN Yokota, Yoshiyuki
PA Nippon Shokubai Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003119656	A2	20030423	JP 2001-317381	20011015
PRAI	JP 2001-317381		20011015		

AB The **binders** comprise aqueous epoxy resins containing carboxyl groups,
oxazoline resins, **inorg.** microparticles and/or alkoxysilane
compds. Heating Light Ester PM, Me methacrylate, Bu acrylate, styrene,
methacrylic acid, hydroxyethyl methacrylate, and AIBN in Bu cellosolve at
105° for 2 h, graft reaction with Epikote 1009, neutralization with
Et3N and dilution with H2O gave a composition with pH 8.8 and nonvolatiles
30.0%.

Coating a composition containing this composition 50, hexyltriethoxysilane
dispersion (particle size 1.9 µm) 20, Epocross WS500 5, and
diaminosilane coupling agent 0.2 g was coated on a wet sheet of E

glass fiber chopped strands, drying, soaking the resulting nonwoven fabric in an epoxy resin varnish, drying, and hot pressing 4 pieces of the resulting **prepregs** gave a 0.6-mm laminate with good soldering resistance.

L7 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:592493 CAPLUS
DN 133:186474
TI Nonwoven fabric material and **prepreg** for **circuit board**
IN Echigo, Fumio; Kawakita, Yoshihiro
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1030543	A1	20000823	EP 2000-103237	20000217
	EP 1030543	B1	20040107		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2000239995	A2	20000905	JP 1999-41208	19990219
	US 2003045164	A1	20030306	US 2000-506318	20000217
PRAI	JP 1999-41208	A	19990219		

AB The present invention provides a nonwoven fabric material prepared from short fibers (1) including thermal-resistant synthetic fibers bound with an **inorg. binder** (2), a **prepreg** and a **circuit board** using the same. The **circuit board** has an excellent dimensional stability even at a high temperature, and the **circuit board** is prevented from warping or being damaged by moisture absorption or the like. The **inorg. binder** (2) is a residue formed from a low m.p. **glass** solution or a H₂O-**dispersible** colloidal solution including at least either fibers or particles of low m.p. **glass dispersed** therein. When the **binder** was used, a chemical covalent bonding by a siloxane bonding is formed.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:480996 CAPLUS
DN 131:130968
TI Resin sheets containing epoxy resin particles, and multilayer printed **circuit boards** with low dielectric constant
IN Ishigami, Tomio; Murai, Akira; Sakai, Koji
PA Hitachi Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11207851	A2	19990803	JP 1998-17568	19980129
PRAI	JP 1998-17568		19980129		

AB The sheets comprise (A) **inorg.** fibers formed into nonwoven fabrics using curable **binder** resins and (B) uncured solid epoxy resin particles, which are **dispersed** in A and show specific permittivity ≥ 3.7 after hardening. Thus, a mixture of Sumiepoxy LDX 4127 (epoxy resin particle), PP 700-300 (phenolic resin hardener), and 2-ethyl-4-methylimidazole was crushed, added to an aqueous **glass** fiber slurry, formed into a sheet, sprayed with a **binder** containing

HTR 600LB (thermosetting acrylic resin emulsion) 100, Melan X 66 (melamine resin) 10, and p-MeC6H4SO3H 0.3 part, and heated to give a sheet. A Cu-clad printed **circuit board** was hot-pressed with Cu foil via the sheet to give a 4-layer printed **circuit board** showing specific permittivity 3.8.

L7 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:62507 CAPLUS

DN 128:118198

TI Method for manufacture of metal laminates for printed **circuit boards**

IN Sakai, Koji; Nakamura, Yoshihiro; Murai, Akira; Iijima, Toshiyuki

PA Hitachi Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10016131	A2	19980120	JP 1996-173573	19960703
PRAI	JP 1996-173573		19960703		

AB The method comprises hot-press bonding a metal foil to a resin substrate through an **adhesive** mixture containing an uncured powdered thermosetting resin **dispersed** in **inorg.** fibers. The resin substrate is manufactured by preparing a **prepreg** from a slurry of an **inorg** fiber and an uncured powdered thermosetting resin by paper making, coating the sheet with a hardenable **binder** resin, and heating for drying.

=> s zircon or silica or silicate

19418 ZIRCON

3475 ZIRCONS

19962 ZIRCON

(ZIRCON OR ZIRCONS)

429897 SILICA

3254 SILICAS

430243 SILICA

(SILICA OR SILICAS)

168139 SILICATE

56859 SILICATES

193685 SILICATE

(SILICATE OR SILICATES)

L8 604331 ZIRCON OR SILICA OR SILICATE

=> d his

(FILE 'HOME' ENTERED AT 08:32:38 ON 26 FEB 2004)

FILE 'CAPLUS' ENTERED AT 08:32:53 ON 26 FEB 2004

L1 12676 S PREPREG?

L2 40996 S CIRCUIT(L) BOARD

L3 13990 S INORGANIC(L) (BINDER OR ADHESIVE)

L4 656031 S GLASS

L5 21 S L1 AND L2 AND L3 AND L4

L6 559962 S DISPERS?

L7 4 S L5 AND L6

L8 604331 S ZIRCON OR SILICA OR SILICATE

=> s 15 and 18

L9 3 L5 AND L8

=> d 1-3 bib,abs

L9 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:563816 CAPLUS

DN 135:138426

TI Nonwoven fabrics for laminated **boards** with improved heat resistance manufactured by forming nonwoven fabrics comprising **binders** containing coupling agent-treated **inorganic** fillers and manufacture thereof and printed **circuits** therefrom

IN Terao, Tomoyuki; Shinotsuka, Hiroshi

PA Oji Paper Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001207367	A2	20010803	JP 2000-18159	20000127
PRAI	JP 2000-18159		20000127		

AB The nonwoven fabrics comprise fiber-to-fiber bonding **binders** added to the fibers in two steps to cause the **binder** added in the final step comprising **binders** containing 10-95% coupling agent-treated **inorg.** fillers. The nonwoven fabrics are prepared by the steps comprising the step of mixing the fibers with **binders** containing no fillers and subsequently mixing the fibers with **binders** containing 10-95% coupling agent-treated **inorg.** fillers comprising 20-100% **silica**. Chopped **glass** fiber strands were made into a sheet by the wet method, spray coated with a **binder** (A) comprising 8:2 mixture of carboxy-modified epoxy resin emulsion and blocked isocyanate emulsion, dried, spray coated with with a mixture comprising A **binder** and 30% (on solids) diaminosilane-treates **silica** (Aerosil 130), dried, and cured 2 h at 180° to give a nonwoven fabric showing tensile strength 2.4 kg after immersion acetone for 5 min. The nonwoven fabric was immersed in an epoxy resin varnish and dried to give a **prepreg**. A laminate of four of the **prepreg** was pressed at 180° to give a board showing very small swelling on immersion of the laminate in a solder for 20 s at 260°.

L9 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:592493 CAPLUS

DN 133:186474

TI Nonwoven fabric material and **prepreg** for **circuit board**

IN Echigo, Fumio; Kawakita, Yoshihiro

PA Matsushita Electric Industrial Co., Ltd., Japan

SO Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1030543	A1	20000823	EP 2000-103237	20000217
	EP 1030543	B1	20040107		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2000239995	A2	20000905	JP 1999-41208	19990219
	US 2003045164	A1	20030306	US 2000-506318	20000217
PRAI	JP 1999-41208	A	19990219		

AB The present invention provides a nonwoven fabric material prepared from short fibers (1) including thermal-resistant synthetic fibers bound with an **inorg. binder** (2), a **prepreg** and a **circuit board** using the same. The **circuit board** has an excellent dimensional stability even at a high temperature,

and the **circuit board** is prevented from warping or being damaged by moisture absorption or the like. The **inorg. binder** (2) is a residue formed from a low m.p. **glass** solution or a H₂O-dispersible colloidal solution including at least either fibers or particles of low m.p. **glass** dispersed therein. When the **binder** was used, a chemical covalent bonding by a siloxane bonding is formed.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:437968 CAPLUS
DN 122:189653
TI Adhesives with low thermal expansion and good adhesion to
electroless-plated coatings and printed **circuit boards**
from them
IN Tani, Satoko; Asai, Motoo
PA Ividen Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06158333	A2	19940607	JP 1992-310407	19921119
	JP 3115435	B2	20001204		
PRAI	JP 1992-310407		19921119		

AB The **adhesives** comprise heat-resistant resin matrixes and **inorg.** particles coated with heat-resistant cured polymers soluble in acids or antioxidants. A solution containing 20% (solids) epoxy resin and diethylenetriamine and **silica** particles were mixed, dried, cured 1 h at 100° and 2 h at 130°, and pulverized to give epoxy resin-coated **silica** particles (A) with particle diameter 3.0 µm. A **glass** fiber-reinforced epoxy resin **prepreg** was coated with a composition comprising phenolic novolak epoxy resin 60, bisphenol A epoxy resin 40, imidazole curing agent 4, and A particles 50 parts and Bu cellosolve, heated 1 h at 100° and 5 h at 150°, etched with a solution containing CrO₃ for 15 min at 70°, and electroless plated with Cu to give a printed **circuit board** with heat expansion coefficient $4.0 \times 10^{-5}/^{\circ}\text{C}$, bonding strength 2.2 kg/cm, and number of cycles required for cracking by a specified heating and cooling test ≥ 1000 .